Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-40. (Canceled)

41. (Previously presented) A purified or isolated nucleic acid molecule, said nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule consisting of SEQ ID NO:3 or the complementary sequence to SEQ ID NO:3; and

(b) a nucleic acid molecule consisting of SEQ ID NO:5 or the complementary sequence to SEQ ID NO:5.

42. (Canceled)

43. (Previously presented) The nucleic acid molecule of claim 41, wherein said nucleic acid molecule is purified or isolated from genomic DNA.

44-47. (Canceled)

48. (Previously presented) A vector comprising a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule consisting of SEQ ID NO:3 or the complementary sequence to SEQ ID NO:3; and

(b) a nucleic acid molecule consisting of SEQ ID NO:5 or the complementary sequence to SEQ ID NO:5.

49-50. (Canceled)

51. (Previously presented) An isolated host cell transformed with the vector of claim 48.

52. (Previously presented) The host cell of claim 51, wherein said host cell is selected from the group consisting of a bacterium, a yeast cell, an insect cell, a fungal cell, a mammalian cell, and a plant cell.

53-55. (Canceled)

56. (Previously presented) A diagnostic composition for diagnosing or assessing an individual's predisposition to develop adult-type hypolactasia, comprising the nucleic acid molecule of claim 77.

57-74. (Canceled)

75. (Previously presented) A kit comprising the nucleic acid molecule of claim 77.

76. (Previously presented) The nucleic acid molecule of claim 41, consisting of SEQ ID NO:3 or SEQ ID NO:5.

77. (Previously presented) A purified or isolated nucleic acid molecule, said nucleic acid molecule comprising a sequence that corresponds to a fragment of SEQ ID NO:3 or a fragment of the complementary sequence, wherein said sequence consists of (i) from 14 to 30 consecutive nucleotides of SEQ ID NO:3 which includes position 324 of SEQ ID NO:3 and hybridizes under highly stringent conditions to the complementary sequence, or (ii) from 14 to 30 consecutive nucleotides of the complementary sequence to SEQ ID NO:3 which includes position 324 of the complementary sequence and hybridizes under highly stringent conditions to SEQ ID NO:3.

78. (Canceled)

79. (Previously presented) The nucleic acid molecule of claim 77, wherein said nucleic acid molecule comprises a sequence consisting of from 14 to 24 nucleotides.

80. (Previously presented) The nucleic acid molecule of claim 77, wherein said nucleic acid molecule comprises a detectable label.

81. (Previously presented) The nucleic acid molecule of claim 80, wherein said detectable label is a fluorescent label.

82. (Previously presented) The nucleic acid molecule of claim 80, wherein said detectable label is a radioactive label.

83-85. (Canceled)

86. (Previously presented) A kit comprising a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule consisting of SEQ ID NO:3 or the complementary sequence to SEQ ID NO:3; and

(b) a nucleic acid molecule consisting of SEQ ID NO:5 or the complementary sequence to SEQ ID NO:5.

87. (Currently amended) The nucleic acid molecule of claim 77, wherein said nucleic acid molecule is a primer consisting of 17 or 21 nucleotides.

88. (Previously presented) The nucleic acid molecule of claim 80, wherein said nucleic acid molecule is a probe.

89. (Previously presented) A composition comprising:

(a) a first purified or isolated nucleic acid molecule comprising a sequence that corresponds to a fragment of SEQ ID NO:3 or a fragment of the complementary sequence, wherein said sequence consists of (i) from 14 to 30 consecutive nucleotides of SEQ ID NO:3 which includes position 324 of SEQ ID NO:3 and hybridizes under highly stringent conditions to

the complementary sequence, or (ii) from 14 to 30 consecutive nucleotides of the complementary sequence to SEQ ID NO:3 which includes position 324 of the complementary sequence and hybridizes under highly stringent conditions to SEQ ID NO:3; and

(b) a second purified or isolated nucleic acid molecule comprising a sequence that corresponds to a fragment of SEQ ID NO:5 or a fragment of the complementary sequence, wherein said sequence consists of (i) from 14 to 30 consecutive nucleotides of SEQ ID NO:5 which includes position 324 of SEQ ID NO:5 and hybridizes under highly stringent conditions to the complementary sequence, or (ii) from 14 to 30 consecutive nucleotides of the complementary sequence to SEQ ID NO:5 which includes position 324 of the complementary sequence and hybridizes under highly stringent conditions to SEQ ID NO:5.

90. (Previously presented) The composition of claim 89, wherein each of said first and second nucleic acid molecules comprises a sequence consisting of from 14 to 24 nucleotides.

91. (Previously presented) The composition of claim 89, wherein each of said first and second nucleic acid molecules comprises a detectable label.

92. (Previously presented) The composition of claim 91, wherein said detectable label is a fluorescent label.

93. (Previously presented) The composition of claim 91, wherein said detectable label is a radioactive label.

94. (Currently amended) The composition of claim 89, wherein each of said first and second nucleic acid molecules is a primer consisting of 17 or 21 nucleotides.

95. (Previously presented) The composition of claim 91, wherein each of said first and second nucleic acid molecules is a probe.

96. (Previously presented) A kit comprising the composition of claim 89.

97. (Previously presented) A method for testing for the presence of or predisposition to adult-type hypolactasia in a subject, said method comprising:

(a) contacting a nucleic acid obtained from said subject with a composition comprising:

(i) a first purified or isolated nucleic acid molecule comprising a sequence that corresponds to a fragment of SEQ ID NO:3 or a fragment of the complementary sequence, wherein said sequence consists of (i) from 14 to 30 consecutive nucleotides of SEQ ID NO:3 which includes position 324 of SEQ ID NO:3 and hybridizes under highly stringent conditions to the complementary sequence, or (ii) from 14 to 30 consecutive nucleotides of the complementary sequence to SEQ ID NO:3 which includes position 324 of the complementary sequence and hybridizes under highly stringent conditions to SEQ ID NO:3; and

(ii) a second purified or isolated nucleic acid molecule comprising a sequence that corresponds to a fragment of SEQ ID NO:5 or a fragment of the complementary sequence, wherein said sequence consists of (i) from 14 to 30 consecutive nucleotides of SEQ ID NO:5 which includes position 324 of SEQ ID NO:5 and hybridizes under highly stringent conditions to the complementary sequence, or (ii) from 14 to 30 consecutive nucleotides of the complementary sequence to SEQ ID NO:5 which includes position 324 of the complementary sequence and hybridizes under highly stringent conditions to SEQ ID NO:5;

(b) detecting the presence or absence of hybridization between said first and second nucleic acid molecules with said nucleic acid obtained from said subject; and

(c) determining the presence of or predisposition to adult-type hypolactasia in said subject when the presence of hybridization between said second nucleic acid molecule with said nucleic acid obtained from said subject is detected in the absence of hybridization between said first nucleic acid molecule and said nucleic acid obtained from said subject.

98. (Previously presented) The method of claim 97, wherein said nucleic acid is obtained from a blood sample from said subject.

99. (Previously presented) The method of claim 97, wherein each of said first and second nucleic acid molecules comprises a sequence consisting of from 14 to 24 nucleotides.

100. (Previously presented) The method of claim 97, wherein each of said first and second nucleic acid molecules comprises a detectable label.

101 (Previously presented) The method of claim 100, wherein said detectable label is a fluorescent label.

102. (Previously presented) The method of claim 100, wherein said detectable label is a radioactive label.

103. (Previously presented) The method of claim 100, wherein each of said first and second nucleic acid molecules is a probe.